



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D412-702-023
Job Sheet 190124



008204

Part No: D412-702-023

Job Qty: 1 pcs

Part Name: Shoulder Harness, 4 Point Attachment, 5 Man Fwd Facing



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 2/5/19

Job Tracking No:

Due Date: 3/15/19

Created By: Jesse White

Type: Stock

Description: SIOP

Note: DWG REV E IPP Rev: B Removed Manufacturing 05-11-08 JLM IPP Rev: C IPP rev D 06.12.14 per ecn 871 EC
IPP Rev: E 07-03-14 As per DSI 9351 JLM IPP Rev: F 11.05.31 DSI 9559 EC verified by: JLM

Ship Via:

See attachment

chg003

DAS
21
9-89DAS
35
9-89

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
110	Packaging 1 - Pick Kit	1 pcs		3/15/19	0.00	0.00	Packaging 1 - 1		
							Packaging 1 - 2		
							Packaging 1 - 3		
							Packaging 1 - 4		
							Packaging 1 - 5		
							Packaging 1 - 6		
							Packaging 1 - 7		
							Packaging 1 - 8		
							Packaging 1 - 9		
							Packaging 1 - 10		
							Packaging 1 - 11		
							Packaging 1 - 12		
							Packaging 1 - 13		
							Packaging 1 - 14		
							Packaging 1 - 15		
							Packaging 1 - 16		
							Packaging 1 - 17		
							Packaging 1 - 18		
							Packaging 1 - 19		
							Packaging 1 - 20		
							Packaging 1 - 21		
							Packaging 1 - 22		
							Packaging 1 - 23		
							Packaging 1 - 24		
							Packaging 1 - 25		
							Packaging 1 - 26		
							Packaging 1 - 27		
							Packaging 1 - 28		
							Packaging 1 - 29		
							Packaging 1 - 30		

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
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www.dartaerospace.com



Container No: S174136

Part: D412-702-023

Job No: 190124

Serial No/Batch: S174136

Revision:

Inspector:

Exp Date:

Instructions: TC STC SH04-7 Issue 30-FA&S174 SFO1997N

APR 22 2019

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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread		FAULT CATEGORY Other/Details: _____			

					Packaging 1 - 31	
					Packaging 1 - 32	
					Packaging 1 - 33	
					Packaging 1 - 34	
					Packaging 1 - 35	
120 QC 4	1 pcs	3/15/19	0.00 0.00		QC 4 - 26	
					QC 4 - 28	
					QC 4 - 38	
					QC 4 - 42	
					QC 4 - 58	
					QC 4 - 6	
					QC 4 - 69	
					QC 4 - 9	
					QC 4 - 46	
125 DC - 1 - B4B	1 pcs	3/15/19	0.00 0.00		DC - 1 - B4B	DAS 46 APR 23 2019 9-89
					DC - 2 - B4B	DAS 21 APR 23 2019 9-89
130 Packaging 3-1 - Stock - B4B	1 pcs	3/15/19	0.00 0.00		Packaging 3 - 1 - B4B	DAS 46 APR 23 2019 9-89
					Packaging 3 - 2 - B4B	
					Packaging 3 - 3 - B4B	
					Packaging 3 - 4 - B4B	
					Packaging 3 - 5 - B4B	
					Packaging 3 - 6 - B4B	
					Packaging 3 - 7 - B4B	
					Packaging 3 - 8 - B4B	
					Packaging 3 - 9 - B4B	
					Packaging 3 - 10 - B4B	
					Packaging 3 - 11 - B4B	
					Packaging 3 - 12 - B4B	
					Packaging 3 - 13 - B4B	
					Packaging 3 - 14 - B4B	
					Packaging 3 - 15 - B4B	
					Packaging 3 - 16 - B4B	
					Packaging 3 - 17 - B4B	
					Packaging 3 - 18 - B4B	
					Packaging 3 - 19 - B4B	
					Packaging 3 - 20 - B4B	
					Packaging 3 - 21 - B4B	
					Packaging 3 - 22 - B4B	
					Packaging 3 - 23 - B4B	
					Packaging 3 - 24 - B4B	
					Packaging 3 - 25 - B4B	
					Packaging 3 - 26 - B4B	
					Packaging 3 - 27 - B4B	
					Packaging 3 - 28 - B4B	
					Packaging 3 - 29 - B4B	
					Packaging 3 - 30 - B4B	
					Packaging 3 - 31 - B4B	
					Packaging 3 - 32 - B4B	
					Packaging 3 - 33 - B4B	
					Packaging 3 - 34 - B4B	
					Packaging 3 - 35 - B4B	
140 QC 21 - FG	1 pcs	3/15/19	0.00 0.00		QC 21 - FG - 21	
					QC 21 - FG - 70	
					QC 21 - SA - 53	DAS 21 APR 23 2019 9-89

Part Op 110 - (Pick Kit)

Descriptions: 120 - (QC4- 100% Inspect kits for completeness)

125 - (Document Control)

130 - (Identify as per dwg & Stock Location:_____)

140 - (QC21- Final Inspection - Work Order Release)

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

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Other/Details:																																			

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
AN4-13A	Bolt	4 Ea (4 ea)	110-Packaging 1 - Pick Kit	5115 326
D3195-041	Bracket	2 pcs (2 ea)	110-Packaging 1 - Pick Kit	5075 049
D3195-043	Bracket	2 pcs (2 ea)	110-Packaging 1 - Pick Kit	5154 393
D3196-1	Bar	1 pcs (1 ea)	110-Packaging 1 - Pick Kit	505 3804
D3197-041	Bar	2 pcs (2 ea)	110-Packaging 1 - Pick Kit	5154 361
D3268-1	Placard	2 pcs (2 ea)	110-Packaging 1 - Pick Kit	5089 519
D3546-1	Clip	2 pcs (2 ea)	110-Packaging 1 - Pick Kit	502 5723
D3551-11	Hook And Loop Tie	5 pcs (5 ea)	110-Packaging 1 - Pick Kit	5142 189
D412-702-069	Grommet	1 pcs (1 ea)	110-Packaging 1 - Pick Kit	501 2431
D4387-041	Harness Assembly	5 pcs (5 ea)	110-Packaging 1 - Pick Kit	507 3497
MS24694-S152	Screw	2 Ea (2 ea)	110-Packaging 1 - Pick Kit	5m 137361
MS24694-S154	Screw	2 Ea (2 ea)	110-Packaging 1 - Pick Kit	5034 409

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
110-Packaging 1 - Pick Kit	AN4-13A	4	1,231	0
	D3195-041	2	5	0
	D3195-043	2	1	0
	D3196-1	1	3	0
	D3197-041	2	2	0
	D3268-1	2	11	0
	D3546-1	2	17	0
	D3551-11	5	41	0
	D412-702-069	1	2	0
	D4387-041	5	20	0
	MS24694-S152	2	37	0
	MS24694-S154	2	40	0

Part Specifications

Specifications could not be found.

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Other/Details:					

DART SERVICE INSTRUCTION

TO AMEND IIN-D412-702-1 REV. A,
AND ICA-D412-702 REV. 4 OR EARLIER APPROVED REVISIONS
REF. TCCA STC: SH04-7
REF. FAA STC: SR01997NY
REF. EASA STC: EASA.IM.R.S.00710

PURPOSE

The purpose of this DSI is to outline the replacement of existing D3446-041/-043 Shoulder Harnesses with the new and improved D4387-041/-043 Shoulder Harnesses.

CHANGE

For the following Kits, the D4387-041 and D4387-043 Shoulder Harnesses respectively replace the D3446-041 and D3446-043 Shoulder Harnesses as follows:

Old Harness P/N	Used On	New Harness P/N	Effectivity
D3446-041	D412-702-021	D4387-041	CHG 003 and subsequent
	D412-702-023		
	D412-702-027		CHG 002 and subsequent
	D412-702-029		
D3446-043	D412-702-021	D4387-043	CHG 003 and subsequent
	D412-702-025		CHG 002 and subsequent

Customers who want to upgrade their shoulder harnesses may replace their existing D3446-041/-043 with D4387-041/-043 per this service instruction.

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: 
D. SHEPHERD (DE # 02)

DATE: 11.05.09
CERT. NO.: SH04-7
ISSUE NO.: 3

A	NEW ISSUE	MB	11.05.09
REV.	DESCRIPTION	BY	DATE
DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9559	SHEET 1 OF 1
APPROVED		TITLE	SCALE
DE APPR.		HARNESS CHANGE	NTS
DATE	11.05.09	COPYRIGHT © 2011 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

QTY -021	QTY -023	QTY -025	QTY -027	QTY -029	QTY -035	QTY -081	Part Number	Description
X							D412-702-021	Dart 13-Man Shoulder Harness Kit, 4-point
	X						D412-702-023	Dart 5-Man Forward Facing Shoulder Harness Kit, 4-point
		X					D412-702-025	Dart 4-Man Aft Facing Shoulder Harness Kit, 4-point
			X				D412-702-027	Dart 4-Man Side Facing Shoulder Harness Kit, 4-point
				X			D412-702-029	Dart 1-Man Forward Facing Shoulder Harness Kit, 4-point
					X		D214-702-035	Dart 5-Man Aft Facing Shoulder Harness Kit, 4-point, for Bell 214B/B-1
						X	D412-702-081	Dart 2-Man Aft Facing Shoulder Harness Kit, 4-point
1	1		X	1			D412-702-069	GROMMET KIT
2	2						D3195-041	BRACKET
2	2						D3195-043	BRACKET
1	1			1			D3196-1	BAR
1			1				D3196-3	BAR
1			1				D3196-4	BAR
2	2						D3197-041	BAR
4		4				2	D3198-1	FITTING
2	2						D3268-1	PLACARD
9	5		4	1			D3446-041	HARNESS ASSEMBLY, 4 POINT
4		4				2	D3446-043	HARNESS ASSEMBLY, 4 POINT
					5		D3446-045	HARNESS ASSEMBLY, 4 POINT
13	5	4	4	1	5	2	D3551-11	HOOK AND LOOP TIE
2	2						D3546-1	CLIP
4		4				2	AN4-5A	BOLT
4	4						AN4-13A	BOLT
8		8				4	AN4-20A	BOLT
20		20				10	AN960JD416	WASHER (OR NAS1149D0463J)
12		12				6	MS21042L4	NUT (OR MS21042-4)
8	2		6	2			MS24694-S152	SCREW
8	2		6	2			MS24694-S154	SCREW

QTY -069	Part Number	Description
X	D412-702-069	GROMMET KIT
24	D3619-2	GROMMET
1	D3619-2T1	HOLE PUNCH
1	D3619-2T2	STRIKER BLOCK
1	D3619-2T3	PUNCH
1	D3619-2T4	DIE

Change Record

Part Number D412-702-023

Description 5. MAN SHOULDER HARNESS KIT

Page 1 of 1[illegible]